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US 60/423,690 (CON)  
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- (71) Applicant (for all designated States except US): **BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM** [US/US]; 201 West 7th Street, Austin, TX 78701 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **DE CROMBRUGHE, Benoit** [US/US]; 911 Old Lake Road, Houston, TX 77057 (US). **AKIYAMA, Haruhiko** [JP/US]; 7171 Buffalo Speedway, Apt #2014, Houston, TX 77025 (US).
- (74) Agent: **BERESFORD, Sharon, A.**; Fulbright & Jaworski L.L.P., 600 Congress Avenue, Suite 2400, Austin, TX 78701 (US).
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(54) Title: HA4, A NEW OSTEOBLAST- AND CHONDROCYTE-SPECIFIC SMALL SECRETED PEPTIDE, COMPOSITIONS AND METHODS OF USE

(57) Abstract: A polypeptide designated HA4, expressed selectively by bone tissue, is provided. Transgenic animals that fail to express HA4 have bone formation abnormalities reflective of osteoporosis. Also provided are methods for promoting bone formation by increasing the activity or expression of HA4, methods of diagnosing or treating bone degenerative diseases, and methods of screening for drugs that alter bone formation.

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/35139

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07H 21/04; C12N 15/63, 15/85

US CL : 536/23.1, 435/320.1, 325

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 536/23.1, 435/320.1, 325

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

STN: EMBASE, BIOSIS, CAPLUS. STIC SEQUENCE SEARCH

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Database GenCore, Accession Number, BD005704, JP 2001029090, ITO et al., Novel Polypeptide. January 2002.	11-20

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

### \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

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Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Celine Qian, Ph.D.

Telephone No. 703-308-0196